Oceanological and Hydrobiological Studies
Vol. XXXIV, Supplement 3

Institute of Oceanography (287-294) University of Gdańsk
2005

Research Article

THE HYDROBIOLOGICAL CHARACTERISTICS OF THE POLISH PART OF THE VISTULA LAGOON: A REVIEW

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Key words: Ecology, Vistula Lagoon, hydrobiological features.

Abstract

The Vistula Lagoon has been influenced by human activity for the past century. This water body is very shallow with a mean depth of 2.6 m and a maximum depth of 4.4 m in the Polish part. Water temperatures are linked to changes in air temperature and there is no thermal stratification. Visibility is very low at a mean value of 0.3 – 0.9 m. Several-fold increases in the quantities of nutrients have been noted over the last fifty years: nitrogen has increased from 0.03 to 1.5 mg/dm^3 and phosphorus from 0.04 to 0.45 mg/dm^3. The chlorophyll *a* content and gross primary production in the lagoon place it among highly productive brackish water bodies. The phytoplankton is dominated by cyanobacteria, diatoms, and green algae in both quality and quantity. Representatives of other groups of algae are very rare and occur sporadically. *Aphanizomenon flos-aquae*, *Anabaena flos-aquae*, and *Microcystis aeruginosa* are the most abundant species, and they form blooms during the summer season. The most numerous zooplankton taxa were Rotatoria, dominated by *Filinia longiseta*, and Copepoda, dominated by *Eurytemora affinis*. Cladocera play a very modest role. The distribution and biomass of zoobenthos depends on the bottom type. The highest mean biomass is found in coastal areas with muddy bottoms. Oligochaeta and Chironomidae larvae, mainly *Chironomus semireductus*, predominated in the muddy bottom areas. As a shallow basin, the Vistula Lagoon is characterized